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AREA ANALYSIS OF NORTHWESTERN WISCONSIN

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FOREWORD

This area-analysis report was prepared by William F. Musbach, Sidney Henderson, C. H. Stoddard, Jr., Howard Forsythe, and Warren Bailey of the Bureau of Agricultural Economics, North-Central Region staff, Milwaukee, Wisconsin. It represents a considerable extension and refinement of an earlier report prepared by these same men for the information of a visiting Washington interbureau group concerned with possibilities for developing a special integrated Departmental program in the cdt-over region of the Lake States. The earlier report entitled, "Preliminary Statement on Economic Status and Federal Programs for the Five-County Area of Northwestern Wisconsin", was prepared as a result of data assembly and discussion by a regional interbureau group, including, in addition to BAE representatives, H. W. Parisius, Farm Security Administration; Roy Olson, Forest Service; and L. E. Sawyer, Soil Conservation Service.

This extension and refinement, by BAE representatives, of the earlier preliminary statement was developed in response to a request from the National Resources Planning Board for BAE assistance in experimenting with a method of area analysis as a basis for public works planning. The five-county area in northwestern Wisconsin was selected for this experiment in area analysis because of the preliminary work already completed in connection with preparation of the "tour-guide" report for the interbureau group and because it is an area in which there are numerous problems closely related to public works planning. The report has been submitted to the National Resources Planning Board, thereby filling the request responsible for its preparation. It is being processed for distribution to the regional interbureau group concerned with further development and integration of the Departmental program in the area in order to make available to them the additional background material and analyses developed by the BAE representatives since preparation of the brief tour-guide statement.

AREA ANALYSIS OF NORTHWESTERN WISCONSIN

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The area chosen for analysis comprises five counties in northwestern Wisconsin: Ashland, Bayfield, Price, Sawyer, and Taylor. In this area are found both productive and barren soils, virgin timber, and cut-over lands, sawmills, paper and pulp mills, and various forms of the recreation industry. Except for mining, which is not represented here, these counties constitute a representative cross-section of the entire Lakes States cut-over region and conclusions drawn here will generally be applicable to other parts of the region.

This five-county area is predominantly rural, with only one city of any considerable size. Forest resources are approaching exhaustion, agriculture is poorly developed as a whole, and family incomes are inadequate because of generally low agricultural returns and extensive unemployment.

EMPLOYMENT BREAKDOWN AND STABILITY CHARACTERISTICS AND FACTORS AFFECTING EMPLOYMENT AND INCOME STABILITY

The present economy of this five-county area is the resultant of social forces dating from the 1870's when large-scale lumbering operations began. This initial period of development, lasting until about 1910, was marked by rapid liquidation of forest wealth. Logging operations were carried on by a few large companies which depended heavily

upon "lumberjacks" who often came into the area from other regions during the logging season. Sawmills at Ashland, Park Falls, Phillips, and other cities employed urban labor for the most part. Accordingly, the working population consisted mainly of full-time workers in sawmills and other wood industries, seasonal migratory workers in the woods, a few farmers supplying local markets with agricultural products and occasionally getting woods work in the winter, and the resident population engaged in service and transportation industries. The total population of these five counties, as reported by the 1890 census, was 41,000. About one-fourth of the people lived in the city of Ashland which was booming because of its position as an ore port for mines outside this area, as a sawmill town, and as the retail and wholesale service center for many of the northern Wisconsin counties.

In this period of maximum forest production, a large part of the population was directly or indirectly supported by the forest industry. Allowing for the Ashland population engaged in servicing or processing products from outside the area, and for the migratory labor coming into the area, probably 5,000 to 10,000 workers were employed in lumbering operations. This employment was offered under a high-level, liquidating system of forest production.

After 1900, forest industries began to decline and agriculture began to expand. As the logging industry continued to decline after 1910, paper mills became important but, nevertheless, the total employment supported by the forests continued to decrease. During this decade following 1910, a large-scale agricultural "boom" took place in which a larger number of farms were developed to a self-supporting basis than in any other similar period. Several colonization companies flourished within the area, selling large acreages of land to Corn Belt farmers, professional men, immigrants from the cities, and others. Land bought or held for farming purposes followed closely the removal of timber. This resulted in a much larger area becoming available for farms than could be developed, even though the rate of settlement was high. No consideration was given to the future of the timber industry, both because the cut-over land was assumed to be the base for needed agricultural production and because of the general laissez faire philosophy toward business. Fire protection, which later was to be recognized as a sorely needed program during this period, was almost nonexistent.

By 1920 economic activity was probably at its height. Total population had risen to 86,500, which is about the same as that in 1940. In the decade from 1920 to 1930, however, economic activity of the area slowed down markedly - the rate of farm development turned sharply downward and forest industries decreased to about the present level. Large-scale migration to industrial centers occurred and, despite the natural increase of a young population, the total population declined from 86,000, to 80,000 during the decade. The collapse of the agricultural boom, together with the general removal of timber in the area, led to large-scale tax delinquency, particularly after 1925. Counties found few buyers for tax certificates.

Bayfield County began a deliberate policy of taking over the tax-forfeited land in 1923 - one of the earliest in the State. Fire protection was still neglected and large acreages burned over annually. While the decade of the 1920's was not a prosperous one for the area, adjustments in population were taking place and interest in general land programs, such as county forests, was beginning to take form. Increased recreational development in this period helped in a small way to alleviate unemployment and a decreasing tax base.

On this base of limited commercial farming and declining timber resources, new problems were imposed after the economic break-down of 1930. In the absence of well-organized systems of relief in the cities, several thousand persons came into the area between 1929 and 1935. Some were attracted by cheap land and planned to develop farms, but the majority sought only a refuge from urban unemployment. In addition to this migration from the city, population problems were increased by the damming up of younger people who in former years had left the area for urban employment. As industrial employment increased during the latter half of the decade and as urban relief systems became better organized, fewer people came into the area and more went out. By 1940 a few more self-supporting farms had been developed and forest employment had increased slightly. The recreational industry increased in importance but it still is limited in its employment opportunities for local labor. But total population increased by 18,000, and in 1940 there were 88,000 people in the area.

Within the last year, the impacts of war have greatly accelerated the liquidation of timber resources. As a result, towns dependent upon lumbering will soon face a serious unemployment problem. Also related to the defense programs is the increased outward population movement. Whether because of military service or increased industrial employment, an appreciable number of people have migrated from the area in the last year.

Significant changes in land policy first became evident during this last decade. All five counties in the area zoned their land for agriculture and forestry between 1934 and 1936. A National Forest was established in 1928, county-State forests were developed between 1930 and 1935, and active programs were begun to relocate isolated settlers and to rehabilitate farmers in agriculture.

AGRICULTURE

Agriculture is the most important single source of employment in the area. Therefore, an analysis of the nature and use of this resource is important in appraising employment possibilities.

Agricultural Resources

The agricultural resources, soils, topography, and climate, as a whole, are among the least favorable of any area in the State and are extremely heterogeneous in character. For example, Taylor County is composed largely of soils of the Spencer series which are relatively productive and are usually considered up to the average for the State. Much of the west-central part of the county, however, consists of rough, stony land interspersed with swamps, furnishing a poor base for farming. Other counties of the area have no large bodies of productive soil similar to those in Taylor County and the soils are even more variable in their productivity, ranging from barren sands to fertile silt loams within a short distance. While the agricultural soils have produced good crops of hay, potatoes, and small grains in the years immediately following clearing, problems of maintaining yields have arisen in the older farming areas of the region. In the opinion of some soils workers, the agricultural land must be managed very carefully, including the use of fertilizer and lime, to maintain the basic soil fertility. There is sufficient evidence of this fact to indicate the relatively poor competitive position of the area in the agriculture of the State. Climatic conditions are also relatively unfavorable; the short growing season, ranging from 100 to 130 days, tends to restrict the choice of crops which can be grown.

Agricultural Industry

Extent and Nature

The agricultural industry of the area is concentrated largely in Taylor County, southern Price, northern Ashland, and east-central Bayfield Counties. Farms in other parts of the area are in small scattered communities or in isolated locations. In 1940 10,495 farms were reported by the census, or somewhat over three times the number in 1900. About one million acres are in farms, comprising 26 percent of the total area.

Agriculture, outside of a few of the better areas, is typically a part-time industry with relatively few full-time commercial farms. The land actually used for crops averages only about 25 acres per farm. Small farm businesses are supplemented by a limited amount of work off the farms, such as forest employment, driving a school bus, work on roads, and the like. The 1935 agricultural census indicates that 55 percent of all farm operators in the area did some work for pay off their farms, averaging 63 days per operator.

The actual operation of the 10,500 farms in the area provides the equivalent of about 9,400 full-time jobs. This estimate is based on the labor required to produce the crops, livestock, and livestock products of the area under present farm practices, plus incidental labor to develop and maintain the farm plant. As there is the equivalent of approximately one and one-half full-time workers per farm, about 6,000 additional jobs

would be required to provide full-time work for all those on farms. The actual off-farm employment in 1934 amounted to about 1,500 full-time jobs. The difference, 4,500 jobs, means actual unemployment or much "busy work" on the farms which brings little, if any, financial return.

The prevalence of chronic unemployment or underemployment in agriculture is also borne out by the Farm Security Administration estimates of farms which have adequate incomes, either from agriculture alone or from agriculture plus an assured source of off-farm employment. According to these estimates, only 40 percent of all farm families in the five-county area receive adequate incomes, the percentage ranging from 14 in Ashland County to 60 in Taylor. Employment in agriculture is a relative term in that, as used here, it indicates the actual work performed, not the total potential work available. Thus while there are definite limitations to the amount of work which can be expended in caring for livestock and harvesting crops, there is a large reservoir of potential work in expanding the cleared acreage per farm, particularly on the units with less than 25 acres. The work provided by current land-clearing operations are included in the 9,400 jobs.

Dairying constitutes the principal farm business in this area. The typical full-time farmer has from 8 to 10 milk cows and 30 to 40 acres of crops. About three-fourths of the cropland is in hay, a few acres are in feed grains, and some potatoes are grown for sale. Much of the feed grain is shipped into the area because usually it does not pay to raise more grain than is necessary for rotation purposes. Most of the hogs and poultry produced are used by the farm family or sold in local markets. The typical full-time farm has two or three horses, although in recent years home-made tractors put together from discarded automobiles and trucks have become popular sources of power. Most full-time farms have haying machinery and the simple tillage tools, but only a few have the more expensive pieces of equipment, the families either renting these machines or hiring the job done.

Part-time farmers usually have from 3 to 6 cows, and from 10 to 25 acres of crops. The cropping system is similar to that on full-time farms, with hay occupying about three-fourths of the cropland. Usually there are only one or two horses. Farmers with one horse borrow another from a neighbor when the job requires two horses. On part-time farms even fewer pieces of machinery are kept and often such operations as plowing, seeding and harvesting are hired done.

An average full-time farmer with 35 crop acres and a 10-cow dairy herd normally has a gross-income expectancy of about \$750 and cash expenses of about \$300, leaving a net cash income of \$450. A part-time operator with 20 crop acres and a 6-cow herd has a gross farm income expectancy of about \$500 and cash expenses of \$250, leaving a net cash income of about \$250. These estimates allow nothing for depreciation or earnings on investment. The average gross farm income for 1936, for all farms in the area, ranged from \$520 per farm in Sawyer County to \$954 in Taylor County. The average for the State as a whole was \$1,764 per farm.

Current Agricultural Programs

In recent years more efficient systems of land-clearing have encouraged farm development. Bayfield County owns bulldozer equipment which clears land for farmers at cost. The Farm Security Administration program has affected a relatively large group of farmers, making about 2,200 rehabilitation loans in the area, half standard and half prestandard. In the main, the families close to the margin of self-sufficiency are those that have been helped by the FSA. For example, crop acreages on farms with standard loans range from 23 in Price County to 46 in Bayfield, with the other counties averaging over 36 acres. But over two-thirds of all the farms outside Taylor County have less than 30 crop acres. During the last year, the special real estate program designed to aid in refinancing land contracts and mortgages has been started with generally satisfactory results.

The Soil Conservation Service and preceding agencies have aided in the adjustment of people to resources through the purchase of 105 isolated and sub-marginal farms, largely in Bayfield and Sawyer Counties. Many of the families from these farms have relocated advantageously in other areas while some have quit farming.

The works programs since 1933 have undoubtedly had an inhibiting effect on farm development, in large part because of the "means" test. In practice, only farmers with a limited number of livestock could be certified for work. Farmers slightly above this margin found it necessary to sell off a part of their stock or machinery to become eligible and new farmers were loathe to expand their business. Because of this "all or none" method of certification, the works programs tended to supplant rather than to supplement farm incomes. This condition should be recognized in planning future works programs, but it is also essential to remember that rehabilitation work has been developing only gradually to meet the needs of this low-income group. In addition, the nonagricultural skills and interests of many families have militated against agricultural development, regardless of works programs.

While farm development has been retarded to some extent by these programs, it is not clear that the net effect has been injurious. To the extent that unemployed labor has been kept more mobile, the ease of migration to other areas when opportunities occur has been enhanced - a particularly desirable situation, especially in times of industrial activity such as the present.

Seasonal Stability

Relatively little seasonal fluctuation in employment and income occurs in the agriculture of this area, owing to the predominantly dairy type of farming. Although the heaviest work load comes in summer when the crops must be planted, cultivated, and harvested, the dairy herd requires much labor in winter, partly because of the severe climate. Dairy production and sales, though usually highest in summer, continue throughout the year on most farms so that income is relatively stable. So-called full-time farms fully employ the average farm family during the summer months, especially during June and July, but these families have some spare time during the winter. The smaller farms (with less than 25 crop acres) do not fully employ the average family even during the crop season.

Cyclical Stability

In contrast with most other industries, employment in agriculture does not fluctuate widely with business conditions. Operators on established farms continue to produce even though prices fall and production becomes unprofitable. The low agricultural prices of the early 1930's, and the sharp reduction in outside employment, seriously reduced the already low farm incomes. The fact that farmers in this area grow a larger share of the products consumed by their families than in other areas, and that dairy prices did not fall as much as cash prices of crops aided them materially.

Although the amount of work on established farms is not appreciably affected by changes in industrial conditions, the total number of farms in this area has been markedly affected by the relative positions of agriculture and industry in the up and down swings of the business cycle. From 1920 to 1930 agricultural prices were relatively good, but opportunities in industry were even better. During this decade the number of farms in the area increased by only 545, compared with 2,010 during the decade of the 1930's when farm prices were much lower. During the latter period the lack of employment opportunities in the cities prevented much of the usual shift to the cities and farming provided about the only alternative for young men looking for work. At the same time unemployment in the cities led many industrial workers to turn to agriculture as the lesser of two evils. In a stricter sense, the increase in farms during the 1930's, as reported by the census, should probably not be interpreted as evidence of agricultural expansion so much as an increase in the number of families living in rural areas. The development of rural homes probably has been more for the purpose of reducing the costs of living during a period of unemployment than for the adoption of agriculture as a means of livelihood. Some of these new homes will be abandoned as industrial conditions improve. But many families, having an investment in the land and buildings, will remain in the area and will try to do some farming even though the returns are meagre.

Long-term Stability

The future position of agriculture in the economy of this area is affected by the trend in other industries, both within this area and throughout the Nation. Trends in the national economy will determine the relative advantage of farming here. The nonagricultural industries within the area will provide local markets for many farm products and will furnish off-farm work. Many of the more successful farmers depend upon these local or special markets, especially for fluid milk or truck crops. These markets are now adequately supplied, but if forestry and recreational employment increase, a local market for more farm products will be established. But much of the present and all of any future increase in dairy production must compete with other dairy areas in the general butter markets. Owing to its poorer soils, the short growing season, and the limited number of adapted crops, agriculture here is in

a poor competitive position with dairy areas farther south. With certain minor exceptions the competitive position of this area is even worse with respect to other lines of agricultural production.

While detailed information on the soils of the area is not available, some evidence of declining fertility is seen in the older cropland, and particularly in the lighter soils, even with a livestock system of farming. It is becoming generally recognized that both lime and fertilizer will be necessary in the future if yields are to be maintained. The consequences of higher cash costs for these amendments are not entirely clear, but soil management will undoubtedly play an increasingly larger part in the future of agriculture and the ability of farms in the area to provide even a minimum standard of living may be seriously threatened.

The relatively poor position of agriculture in the area is reflected in land values which range from \$15 to about \$50 per acre, with the majority probably less than \$30. In most cases, these land values are far below the costs of land development and often are less than the cost of buildings alone. The main attraction for developing new farms is the possibility of capitalizing idle labor into land values by accepting a low labor return. In other words, a man without capital could buy wild land and develop a farm largely through his own efforts and without high cash expenses. This involves the expenditure of 2 weeks to a month of labor per acre plus cash expenditures of from \$5 to \$15 in order to produce land which can be bought for a price not materially in excess of the cash costs.

In the early period of development, rapidly rising land values provided an added incentive for development which does not exist at present and does not appear probable in the future. Farmers in this area are much less likely now to develop raw land than before, because of this disparity between costs of development and land values. Individuals with partially cleared farms, on the other hand, may find it more profitable to expand their operations by clearing additional land than to abandon their present holdings and buy a fully developed farm. The relatively small number of individuals who have expanded their holdings in recent years, even though cash outlays are small and idle labor has been available, would seem to indicate that price factors in agriculture have not been conducive to expansion. The implications of this in regard to future trends are obvious - unless greater financial incentives can be offered, the number of new farms developed is likely to be small.

In addition to these price factors, the future agricultural economy must be considered in the light of the skills, interests, and aptitudes of the rural people who furnish the majority of potential farmers. Even if prices were favorable, a large proportion of the present low-income rural population would find the adjustment to commercial agriculture difficult. While evidence is not complete as to the total labor supply, there is some indication that this personal factor is an important determinant in the future of agriculture. The 1937 Unemployment Census, for example, demonstrates that a maximum of 50 percent of those registering

from rural areas can be classified as agricultural workers and that the proportion of skilled farm labor is much less. Undoubtedly many of this group have nonagricultural skills and would be likely to take advantage of any future employment outside of agriculture which might arise within the area or outside it. In any case, apparently no sizable group is likely to enter commercial agriculture in the future.

If conditions in industry are relatively satisfactory over a long period of time, there may even be a decline in the number of farms in this area. But on the basis of present public policies regarding industry and unemployment, it may be more reasonable to expect a continuation of about the present total number of farms. Some new farms will undoubtedly be developed from raw land but at least an equal number may be retired, either through voluntary abandonment or public purchase or exchange. While evidence is not complete as to the number of farmers needing relocation or shifting into other industries to become self-supporting, the National Resources Board estimate made in 1936 of 1,125 in the area is indicative of the situation. Assuming a continuance of present FSA and other agricultural programs, a rather optimistic prediction might indicate an increase of 50 percent in the number of full-time, self-supporting farms within the next 30 years. Most of these would be the result of more complete development of present part-time farms rather than the development of any new farms. The number of full-time farms would thus be increased from about 4,000 to 6,000 and the number of part-time farms would be correspondingly reduced from 6,500 to 4,500. This would likely mean an increase in farm work equivalent of something over 1,000 full-time jobs and would bring the total work provided by agriculture at the end of 30 years to about 10,500 full-time jobs.

FORESTS AND FOREST INDUSTRIES

Forestry is the most extensive form of land utilization in the area and is also the basis for an appreciable part of the present employment. A brief picture of the forest resources shows the limiting factors in forest employment, present and future.

Forest Resources

Forest land makes up approximately 77 percent of the area in the five counties. The climax to a 70-year period of intensive exploitation and uncontrolled forest fires is a situation in which less than 10 percent of the forest land contains merchantable saw timber, about 20 percent is in cordwood stands, of which only part is merchantable, and the remainder is either deforested or covered with very small forest growth (table 1).

One-half of the forest area is in private ownership, of which four-fifths consists of scattered tracts largely held by nonresidents and the remainder is in farm woodlots (table 2). Public forests are divided about equally between National Forests and county-owned land, about half

Table 1.- Principal forest types and size classes 1/ of trees on forest land in five-county area of northwestern Wisconsin

Size class	Total forest land		Norway :and white :		Hardwoods : (except : aspen) :		Aspen- : birch :		Jack : Spruce-fir, : pine : spruce and : cedar :		All : others :	
	Acres	Percent	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Total	3,130,000	100	43,000	532,000	1,302,000	145,000	299,000	809,000				
Sawtimber <u>2/</u>	252,000	8	16,000	190,000	10,000	6,000	9,000	21,000				
Cordwood <u>3/</u>	557,000	18	18,000	90,000	262,000	42,000	94,000	51,000				
Restocking <u>4/</u>	1,766,000	57	9,000	252,000	1,030,000	97,000	196,000	182,000				
Deforested	555,000	17						555,000				

1/ These estimates are based on Forest-Survey data (Lake States Forest Experiment Station) for Unit 2 Wisconsin. The five-county area was determined to be 55 percent of the total for Unit 2 and the acreages shown here were computed on this percentage basis.

2/ Contains 2,000 or more board feet per acre of merchantable timber in trees above 9 inches in diameter.

3/ Contains less than 2,000 board feet but more than 3 cords per acre in trees less than sawlog size which contain at least 2 sticks of 8-foot pulpwood each (jack pine and spruce-fir, etc. are principal pulpwood types).

4/ At 10 percent of spatial area stocked with seedlings and saplings.

5/ Includes oak, ash, elm, scrub and nonproductive types.

Table 2.- Distribution of forest land ownership in the five-county area of northern Wisconsin

Ownership	Total		Ashland		Bayfield		Price		Sawyer		Taylor	
	Acres	Percent	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Total forest land	3,130,000	100.0	589,000	882,000	563,000	746,000	350,000					
County forest	307,861	9.8	27,784	130,088	64,903	71,266	13,820					
Other county owned	319,320	10.2	49,320	79,880	106,880	63,760	19,480					
State forest	20,710	.7	-	-	-	20,710	-					
Other Cons. Commission	758	-	-	161	277	320	-					
State Land Commission	35,377	1.1	3,752	1,245	18,467	9,870	2,043					
National forest	784,125	25.1	170,685	250,371	133,008	118,900	110,961					
Indian Reservation	219,356	7.0	135,943	12,825	-	70,588	-					
Private forest crop	11,361	.4	3,045	1,267	2,367	3,630	1,052					
Farm woodland	270,787	8.6	46,043	77,327	58,771	28,077	60,569					
Other privately-owned commercial forest including tax-delinquent land	1,160,345	37.1	152,228	328,836	178,327	358,879	142,075					

of the latter being administered cooperatively by the county and State under the Forest Crop Law. A small additional acreage is held by the State (table 2). The majority of sawtimber is in fairly well-blocked tracts owned by large private corporations and is now being rapidly liquidated. Less than 1 percent of the privately-owned land is entered under the Forest Crop Law. Farm woodlots, making up one-tenth of the forest area, contribute but little to farm income and are deteriorating, due to lack of constructive management.

At present the annual cut of sawtimber is about one and one-half times the annual growth and three and one-half times the quantity that can be cut without jeopardizing future growth (allowable drain). These estimates (table 3) have been made from data furnished by the forest survey of the Lake States Forest Experiment Station, and are only roughly indicative:

Table 3.-- Estimated timber volumes, growth and depletion in the five-county area of northwestern Wisconsin 1/

Item	: : Sawtimber in saw- : timber and cord- : wood stands : <u>MTF</u>	: : Principal : pulpwood : stands : <u>Cords</u>
Present volumes	: 1,740,000	: <u>2/</u> 1,270,000
Annual drain (1930-40)	: 136,000	: <u>3/</u> 150,000
Annual growth (present)	: 80,000	: <u>4/</u> 88,000
Allowable annual drain for next 30 years <u>5/</u>	: 67,000	: 50,000

- 1/ Based upon data furnished by the Lake States Forest Experiment Station (U. S. Forest Service) for northwest Wisconsin. All estimates were prorated on the basis that the five-county area was 55 percent of the Forest Survey, Unit-2, Wisconsin data.
- 2/ Includes total volume of spruce, balsam, and jack pine in all merchantable stands and hemlock volumes below sawlog size in sawlog stands.
- 3/ Based on estimated drain in hemlock, spruce, balsam, and jack pine only -- aspen and other woods not included would be in addition.
- 4/ Based on an average growth rate of 1/5 cord per acre on 444,000 acres of jack pine and swamp pulpwood forest types.
- 5/ Allowable drain is below actual growth for this period in order to permit accumulation of sufficient growing stock to obtain full stocking.

On the basis of the above estimates it is apparent that the existing badly unbalanced situation will not only continue but will grow worse in the near future. Most of the growth is taking place on understocked stands of inferior species. The present heavy depletion is taking place on a few large timber tracts that will be mostly cutover in about 5 years. At the end of this time it is believed that the annual cut will be nearly in line with allowable drain and will be considerably below the annual growth. A period of 30 years probably will be required to accumulate growing stock before any sustained yields equal to present production may be expected. This assumes adequate protection and management of existing growing stock under conditions of constructive ownership.

Forest Industries

There were 166 wood-using industries within the area in 1937, distributed by type of industry, annual production, and employment as shown in table 4.

Employment and production is strongly concentrated in a few large plants, over 70 percent of the lumber production coming from four large mills that employ half of the labor in the forest industry. An appreciable part of the pulpwood harvested is shipped outside the area for processing.

During the last year an increased demand for forest products has raised production to the extent that about 10 percent more people are employed than the above estimates, which are based upon 1930-40 average production. Current statistics of payrolls are unavailable, but it is estimated that employees of sawmills and paper plants earn from \$900 to \$1,200 per year, while woods workers receive from \$600 to \$750 per year. Part-time employees mainly engaged in harvesting timber earn from \$200 to \$400 per year.

Seasonal Stability

The logging industry is now largely a year-round business as a result of the use of trucks and tractors for transportation within the forest. Sawmills, except for the small units, generally operate on a full-time basis. Paper mills also operate throughout the year, although pulpwood cutting is somewhat seasonal. Aspen, spruce, hemlock, balsam, and jack pine, which are the chief species used for this purpose, are cut the year around but peeled in the spring and summer months when the bark can be removed easily.

Cyclical Stability

The forest industries produce both durable goods, such as lumber, and consumers' goods, such as paper, and are influenced by factors affecting these two types of production. Lumber production for the State as a whole, including shingles and veneer, dropped 85 percent from 1929 to 1932 while the National average dropped 73 percent. This difference may be due both

Table 4.- Forest industries in the five-county area of
northwestern Wisconsin 1/

Industry	Number of units	Estimated annual pro- duction (1930-40)	Unit of pro- duct ^{2/}	Number of men employed ^{3/}		
				Mill	Woods	Total
Totals	:	:	:	2,047 ^{5/}	2,233	4,280
Sawmills (over 5 MB/yr.)	4	91,000	MBF	1,030	850	1,930
Sawmills (less than 5 MB/yr.)	130	32,000	MBF	350	230	580
Miscellaneous industries <u>4/</u>	11	9,250	MBF	300	100	400(est)
Paper pulp and excelsior mills	4	63,000	Cords	250	380	630
Shingle mills	14	11,900	M pcs.	17	13	30
Lath mills	5	58	M pcs.	50	10	60
Forest products shipped out of area	:	5,000(est) 100,000(est)	MBF Cords	-	50 600	50 600

1/ From data furnished by the U. S. Forest Service.

2/ MBF = thousand board feet; cord = 128 cubic feet.

3/ Based on an estimated 5.4 man-days per MBF for woods and sawmill labor and 2.5 man-days per cord in the woods and paper mills. Miscellaneous products figured at separate rates.

4/ Includes 3 veneer mills, 1 handle plant, 3 bolt mills, 1 stove plant, 2 tie mills, and 1 box factory.

5/ Including the equivalent of 1,000 men on a part-time basis.

to the final closing of a number of big mills during this period as well as to difficulties involved in interregional competition resulting from differences in forest species and costs of production. It is reasonable to assume that the trend of lumber production and employment in the five counties is similar to that of the State.

The other important types of forest products, paper, excelsior, and woodenware, can be roughly classed as consumers' goods. Paper production, which is typical of these industries, fell only 33 percent from 1929 to 1933, thus showing relatively greater stability than lumber. Although

only two paper mills are located in the five-county area, large quantities of pulpwood are drawn from it for use by mills located in central Wisconsin.

Fluctuations in woods work usually parallel those of mill production, but, in the case of the paper industry, imports of pulp during the last depression tended to reduce the demand for local pulpwood. As a result of defense demands and increased business activity, production in the paper industry for 1941 is estimated to be 15 percent greater than 1929. Production of lumber also has been accelerated, but production is not expected to reach 1929 levels because of a reduction in both plant capacity and timber supplies.

Long-term Stability

The long-term stability of forest industries within the area depends primarily upon the rate of depletion of the forest lands. Four large sawmills located in Park Falls, Rib Lake, and Phillips, now producing 91,000,000 feet annually, will exhaust their timber supplies within 5 years and probably will be forced to cease production. The seriousness of this development is evident from the fact that these mills now provide work for approximately 2,000 employees, or half the total forest employment.

Assuming present rates of growth and a satisfactory management program, it is probable that, following the decline in production during the next 5 years to a point about half the present level, employment in the forest industries will gradually rise for some years until by 1970 the equivalent of present employment may be obtained. After 1970, forest growth will continue to rise until about the year 2000 when maximum employment can be obtained - roughly twice present levels. This is based upon the assumption that adequate utilization facilities and marketing outlets will be present. While the larger sawmills probably will be discontinued after the next 5 years of cutting, new industries probably will be built to utilize the products as they become available. Present indications are that small portable or semi-portable sawmills will develop temporarily in place of the larger units. Later on, development of small permanent units will be necessary if the above-indicated employment opportunities are to be developed efficiently.

Paper and other wood-using industries that are based upon the utilization of the faster growing species are likely to continue without material change. Present rates of utilization of some of these woods, such as aspen, are less than the allowable drain; so some increases in consumption can be made at present. In addition, available supplies of Canadian pulpwood are sufficient to stabilize production within the area.

Long-term price relations are believed to be favorable for forest industries within the area. Although some shift in paper production to higher grade products is likely to occur because of competition in the cheaper grades produced in the South and West, there is no reason to believe that present paper production and employment will decrease materially

in the future. But production costs, limited water-power facilities, and scarcity of wood are likely to prevent any material expansion of plants.

The lumber industry in this Wisconsin area faces serious reductions in production and will be at a disadvantage in competing with other areas until new growths of hardwoods become marketable. Production during the next 20 years will shift to low-grade species that cannot compete well in outside markets. But demands within the northern cut-over area probably will absorb a materially larger production of the woods than at present. In addition, a large potential fuelwood market exists in the industrial area along the Great Lakes which might be developed if shipping rates could be adjusted to the value of the products. The proposed St. Lawrence Waterway would undoubtedly improve the present competitive position of forest products in the Eastern markets.

The chief characteristic of the industrial organization of the area is the capitalization of the industry on a liquidation system of production. Sawmill capacity is based upon a much larger volume of materials than could be obtained from the present forest stands under sustained yield operations, and this financial factor makes it difficult for present owners to shift to a stable type of operation. Of equal importance is the fact that the total forest economy, including labor and service industries, is capitalized on a high-level liquidation system. Because of the present limited quantity of merchantable timber, shifts to a more stable system would extend the life of the industry only a few years and even during this period it would require the intensification of forest production if unemployment of forest labor and service workers were to be prevented. While several conspicuous examples of this intensification exist in northern Wisconsin, there is some question as to whether it is universally practicable.

Related to the problem of overcapitalization of the forest industries is an unstable ownership pattern marked by many scattered tracts of uneconomic size in nonresident ownership and the absence of any organization for marketing wood from the small tracts. Land in corporate ownership is being liquidated as rapidly as possible, pressed on the one side by over-expanded mills and on the other by high carrying costs. Little or no attempt is being made to hold timberland in permanent production with the result that the removal of timber has led to abandonment of land to the counties by tax delinquency.

The trend toward public ownership and management of forest land is of significance in relation to the future of the industry. At present more than half the total forest land is in public tenure. During the next 20 years it is likely that an even larger proportion will be under public control. If present trends of tax-delinquency and public acquisition continue, a relatively small part of the wild land outside farm woodlots will be in private ownership. In other words, the bulk of the next crop of timber and pulp will be raised by the Federal Government on the National Forests and by the State and counties on State and county forests. There

is thus an excellent opportunity for developing a stable system of production for the future. Employment estimates quoted previously are based upon stable management systems which are vital to the future forest economy.

RECREATION

Recreation is an important industry in the area, particularly in Sawyer County with its lakes and streams that make it one of the leading resort areas of northern Wisconsin. While the number of persons directly employed in the recreation industry is small compared with agriculture or forestry, the indirect employment is disproportionately large. The 1930 census reported 257 persons as gainfully employed in this industry. This includes only those who had their residence in the area and gave this work as their regular occupation. Many more of the local residents have part-time recreation work and, in addition, a large labor force comes into the area each year for the summer season. Allowing for part-time work and some increase since 1929, it is estimated that at the present time the equivalent of about 500 full-time jobs are provided local residents directly by the recreation industry.

In addition to the labor directly employed, the recreation industry contributes materially to employment in retail stores and service industries during the summer months, and it is probable that this employment is nearly equal to that directly afforded.

The area has about 75 resort hotels, half of which are in Sawyer County. These hotels have a capacity of from 2,500 to 3,000 guests and probably employ in the neighborhood of 500 workers for the tourist season. In addition to the resort hotels, many of which also have housekeeping cottages, there are large numbers of resorts with cottages only. There has been a definite trend toward such resorts during recent years and, although the number of workers needed for a given number of guests is much lower than for the American Plan resorts, it is likely that fully as much work and income is provided local residents by these cottages as by the resort hotels. This trend toward housekeeping cottages has increased the possibility for additional income to many farmers or other rural residents who have desirable water frontage.

Recreational development in the National, State, and county forests and parks also provides a considerable number of jobs. An increase in this kind of development would seem to be likely in view of the increasing tendency of industrial workers to take vacations and the fact that such recreationists usually require low-cost facilities.

The recreational industry and its labor requirements are highly seasonal, most of the recreationists coming to the area during July and August. Most of the work, therefore, occurs during these months, although a certain amount of work is available about resorts during other portions of the year, such as building or repairing cottages and protecting buildings through the winter.

The recreation industry is subject to decided cyclical fluctuations, business conditions and weather in the larger industrial cities of the Midwest being the most significant factors affecting the number of people taking vacations in the North.

With the recent and probable continuance of the trend toward greater ease of transportation and the natural advantages of this area for recreation, it is almost certain that the recreation industry will continue to expand. Perhaps the equivalent of 1,000 full-time jobs by 1970 would be a reasonable estimate of its development.

OTHER INDUSTRIES

With the exception of the primary wood-processing plants, little information is available regarding the manufacturing, and service and extraction industries of the area. But these industries are relatively much less important from the point of view of area rehabilitation than the primary industries of agriculture, forestry, and recreation. The 1930 census reported 9,131 gainfully employed workers in manufacturing, mining and extractive, food processing and service industries, excluding sawmills and other wood-using plants.

While these figures give the number of persons reporting such industries as their regular occupation, they are probably an overstatement of the number of full-time jobs provided. For example, about 12,000 workers were reported in agriculture, whereas a computation based on the agricultural production of the area indicates that only about 9,400 man-years of labor were required on farms. This indicates a substantial amount of underemployment among those reported as gainfully employed in agriculture. There is reason to believe that the 9,131 workers engaged in other industries also include a certain amount of underemployment for a similar reason. Assuming that the percentage of such underemployment would be less in the manufacturing and service industries than in agriculture, and assuming further that the number of service industries may have increased somewhat because of the 10-percent increase in total population since 1930, it is estimated that by January 1941 the total number of full-time jobs provided by all industries in the area other than agriculture, forestry, and recreation had reached about 9,000.

Information gathered in the field during June 1941 indicates that there has been a considerable pick-up in certain types of work, due to the defense program. A powder plant in Bayfield County, normally employing from 100 to 200, has added about 600 men, the ore docks provide additional employment to about 100, and the wood and pulp industries have added several hundred workers.

Future trends in the manufacturing, service, and transportation industries are difficult to estimate but there is little reason to expect any substantial increase in work opportunities. If the total population of

the area should decline because of improved industrial conditions in the cities and lack of local opportunities, the service industries might even show a decline. The assumption is made, therefore, that the total number of jobs, outside of agriculture, forestry, and recreation, would likely not be greater by 1970 than at present, or about 9,000 full-time jobs.

INTERRELATIONSHIP OF EMPLOYMENTS

The economy of the area is in large part dependent upon a combination of employments, particularly in the rural industries where farming is supplemented by part-time income from forestry and recreation. To a limited extent also, urban jobs are supplemented by a form of subsistence agriculture. In former years part-time employment off the farms, especially woods work, provided much more income than at present, and one of the chief causes of rural poverty is the limited amount of such work that is now available. In a sense, the present economy is based upon a part-time form of organization without adequate supplies of nonfarm employment. In recent years nonfarm work has been diversified, including not only forest work but such jobs as driving a school bus, trucking, or work on the roads. Many instances are noted also of farm families in which the male head works as a carpenter, bricklayer, or at other construction work in a distant city while other members of the family carry on the farm work. Combinations of farming and other occupations vary from the situation where only a few days are worked off the farm to that where all the cash income is from a nonfarm source and where farm products are used for the household only.

In 1934, 55 percent of all farm operators (or some other members of the family) worked off the farm for pay. Of these part-time farmers, 63 percent worked less than 50 days, 15 percent worked 50 to 99 days, and 22 percent worked 100 or more days off the farm. Those working less than 50 days may be considered as primarily dependent upon the farm and those working 100 or more days as primarily dependent upon nonfarm employment; while the intermediate group, those working 50 to 99 days, is about equally dependent upon farm and nonfarm employment. In terms of net cash income, farming accounted for about 75 percent of the total, and nonfarm employment about 25 percent of the total. These estimates are based on the nonfarm work actually obtained in 1934 and do not represent the amount of such work needed to provide full employment for all employable workers on farms.

In addition to the limited amount of nonfarm employment, the interrelations of various employments are influenced by the seasonality of work in the various industries, such as agriculture, forestry, and recreation. The peak labor-load on farms occurs in June and July which is the haying and grain-harvest season and also the period of maximum milk production on most farms. During the previous 2 months there are a little plowing and a few acres of seeding, but these jobs do not consume

the entire time of the average operator. Even many full-time farmers could do some outside work in the spring and fall and most could do some in the winter. Part-time farmers usually are not fully occupied during any season of the year.

Despite the fact that most logging operations are now conducted throughout the year and much of the pulpwood must be peeled in the spring and early summer, many opportunities exist for effectively combining forest work with farming. It is frequently possible for a farmer to buy stumpage near his farm and cut the wood during the winter. If it must be peeled, there is usually enough free time in the spring before the haying season to do this work. Furthermore, much of the forest-development work such as planting, timber-stand improvement or forest-road work can be done in the spring or fall when the farm work is not too demanding.

Much of the usual work associated with the recreation industry comes in the summer months when farm work is most pressing. A few farmers near streams or lakes have received a limited income from the rental of cottages that they have built on their land. Labor requirements in such an enterprise are low and do not conflict materially with farming. But the number of farmers with good locations and adequate capital to develop the business is small. Some farmers also get carpenter work for the spring or fall from larger resorts and a few are employed in protecting resorts or summer homes during the winter.

Work in resorts and woods work fit well together so far as seasonality is concerned but there is a question as to how many of those actually operating summer resorts would care for or would be adapted to forest work. Probably a number do combine unskilled work of one kind or another in resorts with work in the forest industry.

ADEQUACY OF WORK OPPORTUNITIES

With this brief picture of present work opportunities, their adequacy in relation to employment needs in the area may be examined. Agriculture is at present providing the equivalent of about 9,400 full-time jobs. The forest industry, including the mills and part-time work to rural residents, now employs the equivalent of 4,300 men full-time. Recreation probably does not provide over 500 man-years of work and all other industries furnish about 9,000 full-time jobs. Thus, the present economy of the area - aside from the immediate defense work - employs about 23,200 men full-time.

It is estimated that the equivalent of 32,500 full-time jobs are needed to provide full employment for the present population. This estimate is based on the 1940 census which shows the total labor force, including: The number of people working at nonrelief jobs, those

engaged in public works, and those seeking work. ^{1/} On this basis, a deficit of about 9,000 jobs is indicated. Admittedly, there is a rather wide margin of error in these estimates and it is likely that somewhat less than 32,500 jobs would provide what might be called normal full employment, as there is always some time lost in shifting between jobs and for other reasons. In any case, it appears that, except for the immediate defense work, there is a present shortage of from 7,000 to 10,000 full-time jobs in the area.

This estimate is supported by the Unemployment Census of 1937 which shows a total of 6,500 people either totally unemployed or in various public works programs and 2,500 partially unemployed in the area. In addition, many farmers needing additional work probably did not register in the unemployment census.

Another indication of the shortage of work, with the resulting inadequacy of incomes, is the amount of public assistance required in the area. In December 1940, 15,170 persons in families were receiving some form of aid, exclusive of FSA grants. Including the latter, there were probably about 18,000, or approximately 20 percent of all the people in the area, dependent upon direct public aid as compared with about 12 percent for the State as a whole. In the five counties 2,288 cases were on WPA on December 31, 1940 and there were 958 cases of general relief, of which about one-half were considered employable. The percentage of all people over 65 years of age receiving old age assistance in December 1939 ranged from 33 to 58 percent in the five counties, compared with 23 percent for the State.

Underemployment or employment at unremunerative work is also reflected in the generally low standard of living in the area. This might be illustrated in many ways but one indication of the low standard of living is the fact that, in 1930 the percentage of farm homes having electricity, telephone, radio, and automobile and located on improved roads ranged from 16 to 27 percent in the five counties. In contrast, a triangular block of 25 counties in southeastern Wisconsin all averaged over 70 percent of farm homes having such conveniences.

^{1/} As data by counties were not available, the percentages of the total population 14 years and over which are in the labor force in each of the three categories, urban, rural nonfarm, and rural-farm, were computed for the State as a whole and these percentages were applied to similar categories in the 1940 population for the area. Certain estimates had to be made in distinguishing between rural nonfarm and rural-farm populations. The use of State figures is considered justified as the State figures are corrected for urban influences and since the age composition of the population of the area is not materially different from that of the State.

In any attempt to meet the problem of unemployment or underemployment something must be known concerning the location, skills, and age distribution of the unemployed. For this purpose the 1937 Unemployment Census provides a basis for analysis, although it is probable that more nearly all of the urban unemployed or partially unemployed registered than did those in rural areas. Approximately half of the registrants in this census reported their residence as on farms, yet only about a quarter of the total was classified as farm workers. It is apparent, therefore, that a very substantial proportion of the unemployed people living in rural areas have occupational skills or professional capacities outside the field of agriculture. In terms of occupational experience it should be noted also, that about 14 percent of all registrants were new workers who had not previously been employed yet were anxious to work. The age distribution of the unemployed in the area was not significantly different from that in the State as a whole. Nevertheless the fact that nearly half of the registrants were over 35 and one-third were over 45 is of significance in appraising future employment possibilities in the area.

Assuming that from 7,000 to 10,000 additional full-time jobs were needed, as of January 1941, to provide normal full-time employment in the area, what are the prospects that the resources of the area will be able to supply these additional jobs in the future? Perhaps 1,000 or more are being temporarily supplied by the defense program and about 1,000 youths have entered the armed services. But how many jobs will normally be available during the next 30 years, based on the present outlook and on the assumption that present agricultural and other programs are continued?

Estimates of future agricultural development are based on the assumption that the total number of farms will remain relatively unchanged but that increased employment may be expected through the development into full-time commercial farms of about 2,000 of the present part-time farms. On this basis, all agriculture would likely provide the equivalent of about 10,500 full-time jobs at the end of 30 years, compared with 9,400 at present. The estimated amount of supplementary nonfarm work needed to provide full employment to farmers would be reduced from about 6,000 full-time jobs at present to 5,000 in 1970. But it appears doubtful that enough part-time work could be found to meet even this latter requirement. It has already been indicated that forestry now provides the equivalent of 1,000 man-years of work in part-time jobs. Even if this were doubled by 1970, it would still provide less than half the work needed by part-time and other farmers.

If present trends continue, forest employment will decrease by about 50 percent in the next 5 years, will then rise gradually for 10 to 20 years and by 1970 will probably regain its present level. This estimate is based on current systems of production and full utilization of available materials under a sustained-yield system of management. If more intensive processing were carried on, increased employment of from

20 to 30 percent might be obtained. This would provide a maximum forest employment of about 5,000 men at the end of 30 years. By the year 2,000 the forest industry might provide double this, or about 10,000 full-time jobs.

It was stated in the discussion of recreation that the equivalent of about 1,000 full-time jobs might be hoped for in this industry by the end of a 30-year period. The employment in manufacturing, transportation, and service industries in the area has been assumed to remain at about its present level. Thus, the total employment at the end of a 30-year period, assuming a rather highly efficient use of natural resources, may be expected to be about 25,500 full-time jobs. If the working population remained the same as at present, this would mean a shortage of about 7,000 jobs (see chart). On the basis of the present relationship of number of jobs needed to total population, the 25,500 jobs would support a population of about 70,000 people in 1970, or a 20-percent reduction from the present population. This does not include an allowance for population supported by income from outside the area. There are indications that a certain number of people from the outside will retire on pensions in this area as a result of the Social Security program, but this will not be likely to affect materially the total population.

DIRECTIONS OF READJUSTMENT

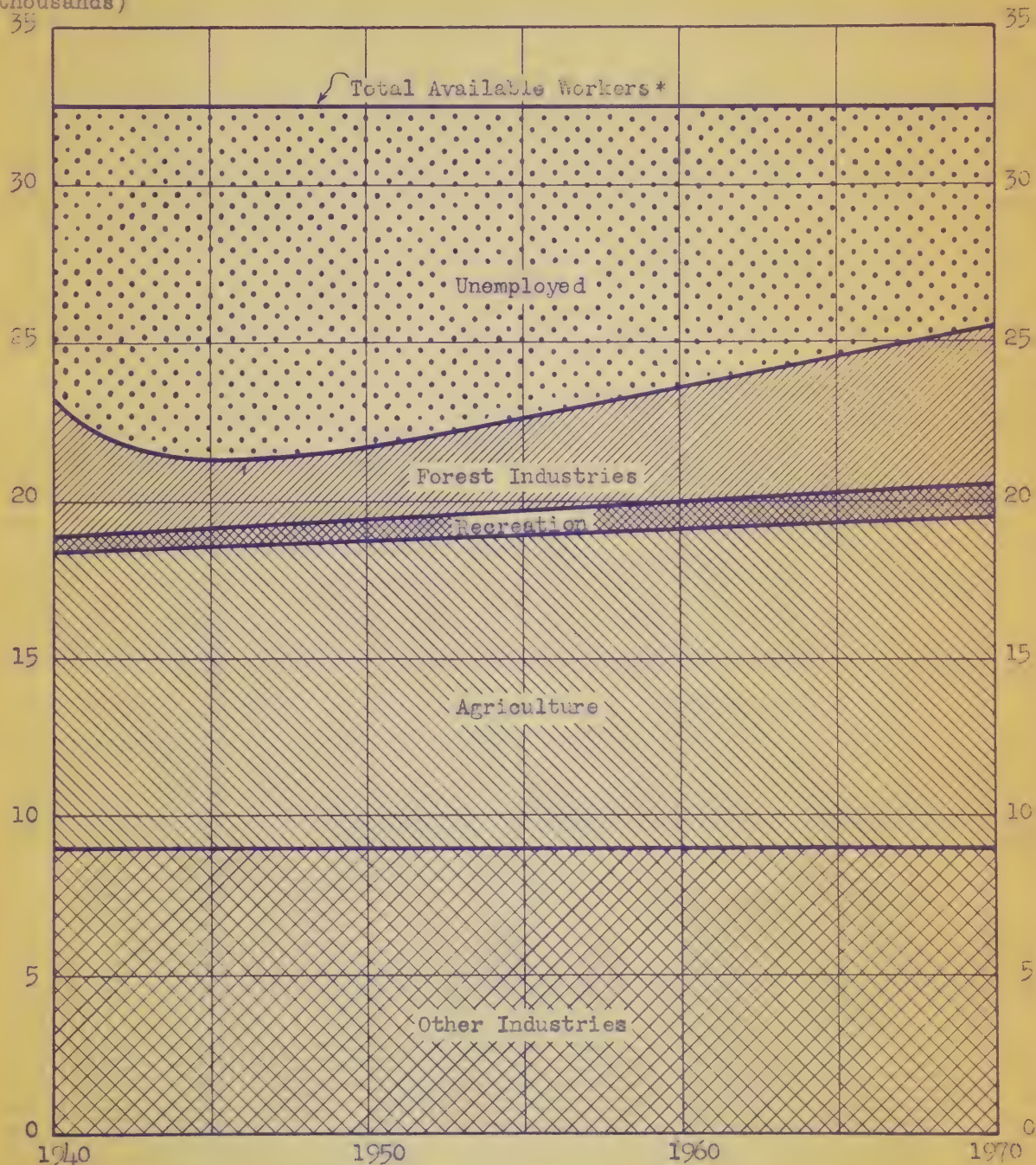
There is no single standard or goal which would be universally approved as a guide for action in this area. What is desirable in land policy depends in part upon the social philosophies of the planners and is crystallized in the set of promises which forms the basis for their thinking. A number of current philosophies, although not mutually exclusive, place major emphasis upon different proposed lines or directions of readjustment.

Among such concepts are: (1) Points of view which hold that public welfare demands a relatively high ratio of rural to urban population, because of certain democratic virtues that are most highly exemplified in the agricultural population; (2) a belief in agriculture and rural living as a "way of life" for a large rural population, with the assumption that low cash incomes incident to a subsistence type of agriculture would be offset by certain inherent cultural values of rural living; (3) a concept of efficiency which suggests that people and resources should be distributed in such manner as to insure relatively high material standards of living, and that only the number of people that can be supported at such standards should remain in an area; and (4) a number of concepts relating to public-works programs, the points of view ranging from insistence that public employment be resorted to only in cases where it will enable the recipients shortly to attain self-sustaining status or that the returns in physical-resource improvement fully justify the expenditure, to insistence that all able-bodied men should be provided with jobs in their present locations or that local resources should be fully

ESTIMATED PRIVATE EMPLOYMENT OPPORTUNITIES AND NEEDS
IN FIVE-COUNTY AREA OF NORTHERN WISCONSIN,
1940 - 1970

Based Upon Continuation of Present Action Programs

Man years
of work
(thousands)



* Assuming no change in total working population

rehabilitated to a state of virgin abundance.

The choice of goals depends principally on whether it is believed most desirable to strive for the high level of production and consumption which is possible at present, or a low level of production and consumption balanced by the amenities of rural culture. In any case, the determination of goals does not flow directly out of a set of facts, no matter how well gathered and assembled, but depends also on the philosophy of the chooser. Furthermore, the goal for which we plan is tempered by a realistic appraisal of the "shape of things to come" outside the area. Under present forms of economic organization, no local economy such as this develops without feeling the impact of stresses and forces from the larger regional or National economy, and in this area these extra-areal forces are probably the most powerful determinants of the future economy. Certain policies are recommended, therefore, for adoption outside the area because it is believed that such policies are the most important tools for bringing about desirable changes in the economy of the area.

As applied to the area, there are two general philosophies for achieving "best fit" of resources and people. One places emphasis upon fitting resources to people, the other, people to resources. An attempt might be made to place the area on a self-supporting basis either by maximizing the use of existing resources or by encouraging shifts of population so that resources under optimum intensity of use can support the people most satisfactorily. In this area the latter concept involves a more efficient use of resources than is made of them at present, but does not assume the necessity of making the resources support the entire population, regardless of the number of people in the area, if such support would mean a low standard of living.

This concept of a high material standard of living in the area and the adjustment of population to resources, forms the basis for recommendations on directions of readjustment presented in this report. According to this objective the future economy of the area would directly support a smaller population than at present, probably about one-fifth less when adjustment was finally obtained.

As a general principle, natural resources in the area, agriculture, forests, and recreation, should be used in such a way that labor opportunities tend to equal those outside the area. That is, land would be farmed to the extent that returns would be equal to those offered by agriculture or other alternative employments elsewhere. If, over a period of years, only a limited amount of agriculture on the best land could hold agricultural labor in the area, the number of farms might be drastically reduced. Similarly, the use of forest resources beyond a point which would pay forest workers on the same scale as alternative employments outside the area would not be encouraged. While material standards of living in the area might not be the same as those outside when a satisfactory adjustment had taken place, the differences would be accounted for mainly in the values attached to the recreational or other

nontangible amenities of the area.

In tying the local economy to the regional and National economies, it is recognized that standards for resource utilization will vary with the fluctuations of the business cycle. Over a long term, however, the best solution for the area is an increase in the number of alternative opportunities outside the area. If this cannot be accomplished, there is little prospect for achieving satisfactory standards of living without large subsidies. Public-works programs for the area are considered in this report, chiefly as a means of aiding in the transition period until adjustments in population can be made.

In order to bring about a more efficient use of resources within the area, it is recommended that the present number of going-concern farms be increased by about 50 percent. A large part of these farms should be in Taylor County. The growing of specialized crops such as berries, together with an expansion of cooperative marketing systems, would serve to increase the efficiency of some farms in the other counties. Programs which facilitate the protection and administration of public forests or which increase the recreational facilities, especially for low-income people, are recommended. But forest investments to provide more future jobs, or to shorten the time until they become available, should be kept to the minimum necessary to provide work for low-income families until the adjustment in population can take place.

Of prime importance in the adjustment process is an expanded educational program to increase industrial skills and aptitudes so that people can better take advantage of employment opportunities both within and without the area. Vocational education for urban jobs is now being developed as a result of the defense training program and this could provide the nucleus for a system which would reach all the people who desire to learn special skills or crafts. Similarly, the amount of scholarship aids available for talented high-school graduates should be materially expanded. Here, as elsewhere, the program is based on the assumption that the National economy can and should employ skilled labor at higher returns than can ever be obtained from an intensive development of extractive industries within the area.

Outside the area, programs should be established which would encourage skilled labor to migrate out of the area to industrial opportunities such as those now offered by the defense program. Following the defense program every effort should be made to help industry shift promptly from war-time to peace-time production so that industrial employment will be maintained. In addition, safeguards could be established to prevent a heavy influx of people into rural areas if large scale unemployment proves to be unavoidable. The most effective safeguard for this purpose is a well-organized and intensive system of relief and public works programs in cities. Such a program has already proved its usefulness in retarding the back-to-the-land movement during the period 1934-38. Potential and necessary public works exist in far

greater numbers in and near urban centers than in such rural areas as this. The construction of public buildings, low-cost housing, and similar work also preserves vocational skills during emergency periods better than most rural projects. Prompt and effective establishment of such a program in the cities would impede, if not altogether stop, the aggravation of unemployment in this, and other, rural areas and would facilitate the long-time adjustment of population to resources because the outward migrations during periods of industrial activity would not then be offset by migrations into the area during periods of depression.

RECOMMENDATIONS

The specific proposals set forth in this report could, in most cases, be adopted by local, State or Federal agencies with little or no legislative action. The recommendations regarding public-works programs are general rather than specific, as the size and nature of any works program adopted will depend so largely on the philosophy accepted regarding the directions of readjustment.

Specific Proposals

A. Agriculture

Counties

- (1) Exchange and buy tracts belonging to isolated settlers to eliminate high per capita costs for schools, roads, and similar services and to give the families the benefit of better locations and better opportunities.
- (a) Use power equipment to clear county-owned land for exchange with settlers when agreement as to trade can be arranged and when the county has suitable land.

Federal

- (1) Expand Farm Security loan program to develop, eventually, about 50 percent more "going-concern" farms than now exist.
 - (a) Emphasize SRE program in refinancing land bought under contract from land-settlement companies.
- (2) Coordinate SCS land use capability surveys with FSA program so that more satisfactory basis for lending program can be established.
- (3) Expand "live-at-home" program with aid of State Extension Service so that low-income people can learn to produce additional quantities of foodstuffs for home use.

- (4) Continue acquisition of isolated nonconforming users (legal residents in zoned areas) which cannot be bought or exchanged by State or local agencies.

B. Forestry and Recreation

Counties

- (1) Develop and expand county forests.
 - (a) Exchange and buy land to block forest units.
 - (b) Employ county forest agents in cooperation with the State.
 - (c) Sell maximum stumpage commensurate with stable production to needy local residents.
- (2) Expand timber sales on scattered tracts outside county forests under conservational plan.
- (3) Establish land-selling organization which will orient sales policy with forestry program.
- (4) Expand recreational development in county forests.
- (5) Develop winter-sports facilities to provide year-around recreational activities.

State

- (1) Sell timber on State Land Commission land on sustained yield basis.
- (2) Exchange Land Commission land with Conservation Commission or with counties to block forest holdings.
- (3) Aid counties in hiring county forester on similar basis as agricultural agent.
- (4) Provide legislation to enforce minimum standards of timber management on privately-owned land.
- (5) Develop a cooperative burning program so that brush and slash can more easily be disposed of in land clearing.
- (6) Aid in development of forest-product marketing cooperatives.
- (7) Develop recreational industry.
 - (a) Provide and enforce higher health and sanitation standards for resort industry.

- (b) Expand stream-improvement work and fish hatcheries.
- (c) Develop recreation sites adjacent to lakes and streams or insure public access through easements or purchase without development.

Federal

- (1) Concentrate forest acquisition on virgin timber and selectively cut lands.
- (2) Expand stumpage sales by one-third to estimated full capacity of National Forests under sustained-yield plan.
- (3) Purchase or exchange holdings with isolated settlers and with the counties in blocking up management units. Use power equipment if necessary and feasible in partially improving land for settler land exchange.
- (4) Aid in development of forest cooperatives and in finding markets for wood products from National Forests.
- (5) Expand sales of stumpage for home use in construction of farm buildings - both to individuals and to cooperative groups who may wish to act together in securing stumpage and in processing the lumber.
- (6) Develop additional low-cost recreational facilities, both for underprivileged groups, such as youth camps and for needy urban families.
- (7) Aid in industrial stabilization and expansion of forest industries.
 - (a) Stabilizing existing industry.
 - (1) Plan a definite program of coordinating available timber supplies with industrial needs by localities (in conjunction with counties, State, and private owners), for extending the operating period of the larger plants - especially in Park Falls, Lib Lake, and Phillips.
 - (2) Provide technical assistance in changing manufacturing processes in order to use lower grades of available wood.
 - (b) Developing new industries.
 - (1) Correlate employment needs with forest resources in order to determine proper location for new plants.

- (2) Provide technical assistance in planning new industrial plants.
 - (a) Aid in establishing "pilot" plants in cooperation with industry.
- (3) Investigate sources of capital (RFC, etc.) for the establishment of new industries.
- (8) Develop "forest-farming" projects, under the Norris-Doxey Farm-Forestry Law, with farmers and other private owner of small forest tracts to prevent deterioration and promote sound forest management.
- (9) Develop simple forest-management plans for farmers receiving AAA payments for farm-woodlot management, in order to promote greater continuity of practices.

C. General Recommendations

Federal

- (1) Develop plan for public-works program in urban centers with intent to minimize back-to-the-land movement in periods of unemployment.
- (2) Aid in development of local cooperative processing plants to improve levels of living of unemployed.
 - (a) Food processing.
 - (b) Forest products including sawmills, etc.

ROLE OF PUBLIC WORKS

The area has had a public works program of one type or another for many years. In earlier years, town and county road construction provided work for low-income people, either as a means of "working off taxes" or as a small source of cash income. Since 1953, road construction and maintenance, along with other public works, has largely been financed by the Federal Government under CWA, FERA, WPA and other agencies. At present WPA and the grant program of the TSA constitute the bulk of the works programs. In recent years, a large part of the work has been devoted to public buildings and roads, although appreciable numbers of men have been employed in conservation work in the county and National Forests. The grant program of the TSA has been confined to work on the client's farm in clearing land, improving buildings, and the like.

In considering the possibilities of future works programs on the same or a larger scale, it is necessary to consider two factors: the organization for administering the program, and the type of work to be done. The form and nature of the organization is of vital importance, as the way the work is carried out will largely determine its effectiveness and, in addition, will influence the development of other parts of the economy. It is assumed that some form of public works will be necessary in the future during periods of depression or during the time the population is becoming adjusted to the resources. Attention should, therefore, be given to the adaptability of present emergency-evolved organizations for this longer-term job and adjustments should be made where needed. Among the considerations most frequently raised locally with respect to the adaptability of present agencies, WPA and FSA, are:

- (1) "Working out" grants in land-clearing and building construction is based on eventual full-time commercial agriculture, an eventuality which may not be desirable on an unlimited scale in the area and may be very difficult in individual cases because of physical disabilities, occupational history and attitudes.
- (2) FSA has been unable to assist many in the large class of open country marginal families in this area.
- (3) The means test used in WPA certifications has the effect of further reducing self-help from farming among this marginal group.
- (4) The emphasis upon the "definition-of-need" principle in the works program, at the expense of graduated wage rates and the foreman's right to hire and fire, has lowered productive use of human resources and emphasized charity connotations which lower the worker's morale and disturb community good will.
- (5) Divided supervision over works programs in the National Forests and elsewhere results in costly administration and unsatisfactory work.
- (6) Sponsorship funds for worthwhile WPA projects are more and more difficult to find in this area.
- (7) The organization is not sufficiently flexible to allow part-time or seasonal employment as part of a forest-farm economy.
- (8) WPA is oriented less toward rehabilitating rural resources or people than to providing a stop-gap until private employment returns.

In order to overcome some of the more fundamental weaknesses of present organizations, a unified rehabilitation agency to combine the functions of WPA and FSA in rural areas is recommended.

According to this suggestion the rehabilitation agency would take over the job of determining the family needs for all rural families and would plan a complete program of rehabilitation. Cases of the type now being cared for under the rehabilitation or SRE loan programs of the FSA would be handled without significant change. But in addition to these loans, some families in the process of clearing land and developing farms would have spare time in which to work off the farm. In such cases the agency would certify the client to a works project, either in the forests, State, county, or Federal, or to a governmental unit for road building or other public improvement. Each case would be certified to the project for a definite amount of income, \$100 in the case of a family near the margin, for example, or \$500 if family needs were large. The project sponsor would then employ the individual at going wages until the amount fixed had been earned. The same procedure would be followed for families not now eligible for regular FSA loan programs, although certification of these workers might be premised upon the carrying out of a program for the production of food for home use.

Two elements are important in the process: First, determining the needs of the family for cash income, its amount and distribution through the year; and, secondly, the determination of future rehabilitation possibilities of the family and their land. Four alternatives are open, singly or jointly: (1) Provision of part-time employment off the farm in order to aid the settler in developing a full-time commercial farm; (2) part-time employment on an indefinite basis or until the forests can provide adequate jobs in harvesting the timber; (3) work on the farm in speeding up its development (continuations of present FSA grant program); (4) maintenance of the family on direct relief where there is no employable member or work is unavailable, relief being chiefly on a non-cash system of distribution. These alternatives do not usually apply to those who get any of the specialized aids under the Social Security program such as old-age assistance, aid to dependent children, and aid to the blind.

Under this program it is assumed that administrative control over the works projects should lie in the hands of the agency sponsoring the work. The Forest Service, for example, would hire those certified on the same basis as other labor and would have complete control over firing men not able to work efficiently. If a man failed in forest work, the rehabilitation agency would attempt to find other work for which he might be better adapted. If several such opportunities were offered without success, direct relief would be the last resort.

One problem to be faced in this suggested program is that of establishing priorities of projects. In most cases more work opportunities would be available than the works-program funds could meet. In a certain area, for example, there might be projects for tree planting, recreational development, and road construction. Some means must be found for determining which project should be undertaken first. County land-use planning committees might well act, in an advisory capacity, on this question. Discussion of alternative works projects in this way by local people and

action-agency representatives would furnish a democratic means for establishing the order of projects to be undertaken.

The particular form of works program to be carried out in the area, that is, the emphasis to be placed upon different types of public investments, forest, agricultural, recreation, or other, is not subject to precise definition. From a physical standpoint an enormous field of work is open to public action in the area. Thousands of farms might be cleared, tens of thousands of acres of forest land might be improved by planting or otherwise, and vast investments might be made in the recreational industry. The conventional price system furnishes no method of specific evaluation of these various forms of investment, as by definition only public funds would normally be used and as the returns are so largely of an intangible nature.

Other considerations than the specific value of the work itself enter into the public-investment program, of which putting idle men to work is the most significant. While certain investments in protecting or developing forests and recreational land can be justified upon the broad social values attached to these uses, and would be performed even if there were no unemployment, the main basis for the program lies in providing work and income for those without sources of private employment.

Competition with private industry frequently determines the type of work undertaken, as it is politically difficult, if not impossible, to employ people in making goods which are also sold on the open market. Public works, in general, probably will have to be directed at production which will not compete directly with existing private industry or which is of minor or hitherto unappreciated importance. The only major exception is the expansion of farm land which has been generally countenanced because the effects on market prices for other producers in this region have been negligible. If large segments of the working population were to remain unemployed indefinitely, further consideration would need to be given to this problem of competition with private industry.

In fixing upon the goal of a population adjusted to resources, it is recognized that a relatively large amount of unemployment is likely to continue for some time before adjustment is attained. Therefore, public works in some form will be necessary to meet the present problem and may be necessary later for temporary periods of industrial unemployment unless industrial activity can be stabilized better than in the past.

While we have no calculus for evaluation of projects, major consideration should be given to the effect of the proposed projects on desired adjustments in the economy of the area. Projects yielding maximum returns in the form of future income or employment opportunities should have first priority, provided they do not tend to stabilize in the area more people than the area can eventually support. Favorably located farmers might well receive help through a public works program to become more firmly established and more completely self-supporting, but the majority of other

workers should be as free as possible to take advantage of industrial opportunities wherever they may be available.

In general, this emphasis upon mobility of labor leads to the conclusion that conservation work, and forest and recreational development should have first priority in planning a works program. Furthermore, there is evidence that a much larger program than the area has had in the past could be used advantageously in building forest and recreational values. That is, there are legitimate opportunities for expanding the protection facilities of the forests, truck trails, fire breaks, telephone lines, and the like. On the basis of rough estimates by the Forest Service, it is likely that 1,000 men could be employed profitably on the present area of Federal, State and county lands for the next 6 years on work of this type, together with the improvement of camp sites and the like. As a part of this work is seasonal, even more men would actually be required on a part-time basis. About an equal amount of additional work is available in timber-stand improvement and reforestation which may be less necessary but which could be justified if the unemployed could not find work elsewhere. Thus, the equivalent of 2,000 men per year could work with profit in the woods for 6 years. This is nonrecurrent work, however, and the labor for maintenance once these improvements were made would not require more than about 200 men a year. These estimates are based upon existing acreage of public lands, and it is likely that an additional acreage, perhaps 10 to 20 percent, will revert to the counties in the future, with corresponding potential work required.

While recommending that conservational work constitute the main type of project, it is also considered likely that some labor should be used to build and maintain other public improvements such as schools and roads. In addition, some labor could be used in the operation of small cooperative processing plants - wood-using industries, small canning plants and the like. Such projects would help directly in increasing the level of living of the families participating and would not conflict seriously with private industry.

NEEDED RESEARCH IN THE AREA

Primary among the research needs in the area is a better understanding of the migration trends and the incentives for such trends into and out from the area. Such questions as this arise: What type, age, and occupational group has come into the area and for what purpose? or, What is the mobility of labor in the area?

Another question worthy of study is the fertility balance of soils within the area. As agriculture provides one of the main bases for employment, it should be known whether or not the soils can permanently provide stable work without large outlays for fertilizers and other special treatments.

In planning agricultural development we should know more about the forces which have retarded expansion in the past when conditions appear to have been relatively favorable for land clearing and the development of farms. Related to this problem is the determination of actual cash expenses and labor required for clearing land, especially with the use of power equipment; and the time necessary for the development of a "going-concern" farm from raw land.

Another broad field of research lies in the nonagricultural industries and labor supplies of the area - the nature and character of industries and employments off the farm. As half the problem of low family incomes lies in this field, it is important that a better understanding of the industrial sector be obtained if the future economy of the area is to be shaped intelligently. The recreational and forest industries are particularly in need of more intensive analysis.

Related to the above questions but significant in itself is the problem of finding out more accurately the labor skills and aptitudes of the underemployed or unemployed so that the broad rehabilitation programs may be better oriented.

Further study in land administration is needed to provide the basis for formulating a complete land-management program for all forest lands - especially scattered private holdings, recreational tracts, and farm wood-lands. Some means must be found for extending technical direction over all ownerships within economic administrative units if the forest resources are to be fully developed on a permanent basis.

INTEGRATED REGIONAL APPROACH TO EMPLOYMENT STABILIZATION AND
PUBLIC WORKS IN THE UNITED STATES

Regional Unit - Northwestern Wisconsin

I. Employment Break-down
and
Stability Characteristics

A diverse local economy is based upon small scale agriculture, forest industries, recreation, and service industries. Out of a total labor force of 32,500 only 23,200 full-time jobs are available, 9,400 in agriculture, 4,300 in forest industries, 500 in recreation, and 9,000 in other industries and services. Rate of agricultural expansion, low since 1920 although somewhat higher in early "thirties." Forest employment, now shrinking, is largely influenced by rapidly declining timber resources though subject to wide fluctuation (sawmills) according to general and business conditions. Present trends indicate 50 percent decline in forest employment in next five years. Agriculture relatively stable in production and subject mainly to fluctuations of farm prices. Population dependent upon resources has varied with industrial conditions through migration in and out of the area. Defense program has attracted numerous workers from the area in recent months. Relief and unemployment indices show about one-fourth the working population in need, December 31, 1941.

II. Factors Affecting
Employment and
Income Stability

Agricultural unemployment and low incomes result primarily from small farm businesses due to unproductive soils, insufficient crop land, lack of managerial ability, and lack of interest in farming. Costs of farm development relatively high though power equipment has improved situation. Large numbers of rural people without agricultural skills or interests. Forest employment declining because of small timber supplies being cut by liquidation system. Production conditions prevent any material change in cutting methods or halting of probable 50 percent decline in next five years. Relatively little increase in forest employment possible in next 30 years due to present poor conditions of cutover lands. Recreation employment, largely part-time, is concentrated in summer months and is subject largely to industrial conditions and weather in urban centers.

III. Directions of Re-
adjustments

Present disparity between resources and population should be reduced through rural and urban policies designed to prevent influx of people into area in depression years and to encourage gradual migration from area. Expansion of agriculture through developing larger farm business on part-time farms. Management of timber lands in public ownership to provide maximum employment under conservational system. Goal in next 30 years, population of 70,000 in area, with 25,000 workers of which about 10,000 would be employed on farms, 5,000 in forest industries, and 10,000 in other industries. Internal adjustments include concentration of isolated families into communities, development of new forest industries to use low-grade materials, expansion of public forest ownership, better management of private forest lands, and an expanded rehabilitation program to develop "going-concern" farms.

INTEGRATED REGIONAL APPROACH TO EMPLOYMENT STABILIZATION AND
PUBLIC WORKS IN THE UNITED STATES

Regional Unit - Northwestern Wisconsin

IV. Recommendations

Both overall programs and public works should be directed toward optimum development and use of natural resources and adjustment of population to carrying power of resources.

Overall recommendations

1. Through county action
 - a. Relocate isolated settlers where possible
 - b. Develop and expand county forests
 - c. Coordinate all county land programs
 - d. Expand recreational development
2. Through State action
 - a. Exchange State Land Commission land where possible to aid in blocking public forests and sell timber from former on sustained yield basis.
 - b. Provide legislation to enforce minimum standards of timber management.
 - c. Aid in developing forest product marketing cooperatives
 - d. Aid in developing recreation industry.
3. Through Federal action
 - a. Expand FSA so as to develop to full-time basis as many farms as economically justifiable
 - b. Expand live-at-home program
 - c. Continue acquisition of isolated settlement in zoned areas
 - d. Concentrate forest acquisition on virgin and selectively cut lands
 - e. Expand stumpage sales and correlate them with need of timber for local mills and home use.
 - f. Aid in developing new wood-using industries and in stabilizing existing ones
 - g. Develop low-cost recreational facilities
 - h. Develop forest-farming projects under Norris-Doxey farm-forestry law
 - i. Aid in development of local processing and marketing cooperatives for timber and other products
 - j. Minimize back-to-land movement in times of depression by public policies designed to maintain full industrial production and employment supplemented by adequate public works programs whenever necessary

Role of public works

Public works program should be designed to aid in transition period to better adjusted economy. Organization important as well as specific works and suggestion made that all works be unified under one rural rehabilitation agency that would determine needs and design rehabilitation program. First objective of public works is employment but choice of projects in area guided by effect on desired adjustments in economy of area, permanent values accruing and preservation of mobility of labor. These criteria indicate that conservation work in developing public lands has high priority. Expanded program recommended for urban centers to stabilize population in periods of unemployment.

Needed research

Research needs of the area include studies of: (1) Migration trends and incentives, (2) trend in fertility balance of soils and factors affecting it, (3) costs of farm development and factors hindering land clearing in the past, (4) possible expansion of work opportunities in forestry, recreation, and other nonagricultural industries, (5) labor skills and aptitudes of underemployed and unemployed, and (6) appropriate means for forest management on private as well as public lands.

APPENDIX

Table 5.- Total population in five-county area of northern Wisconsin 1/
1890-1940

	Total population					
	1890	1900	1910	1920	1930	1940
Total	41,419	58,529	71,615	86,544	79,907	87,740
Ashland	20,063	20,176	21,965	24,538	21,054	21,801
Bayfield	7,390	14,392	15,987	17,201	15,006	15,827
Price	5,258	9,106	13,795	18,517	17,284	18,467
Sawyer	1,977	3,593	6,227	8,243	8,878	11,540
Taylor	6,731	11,262	13,641	18,045	17,685	20,105

	Percentage change				
	1890-1900	1900-10	1910-20	1920-30	1930-40
Total	41.3	22.4	20.8	- 7.7	9.8
Ashland	0.6	8.9	11.7	- 14.2	3.5
Bayfield	94.7	11.1	7.6	- 12.8	5.5
Price	73.2	51.5	34.2	- 6.7	6.8
Sawyer	81.7	73.3	32.4	7.7	30.0
Taylor	67.3	21.1	32.3	- 2.0	13.7

1/ U. S. Census.

Table 6.— Number of farms in five-county area of northern Wisconsin 1/
1900-1940

	Total number				
	1900	1910	1920	1930	1940
Total	3,166	5,126	7,940	8,485	10,495
Ashland	489	718	1,131	1,087	1,272
Bayfield	465	1,086	1,791	1,931	2,100
Price	865	1,352	1,935	1,997	2,513
Sawyer	159	368	823	1,006	1,300
Taylor	1,168	1,582	2,260	2,464	3,310

	Increase in number			
	1900-10	1910-20	1920-30	1930-40
Total	1,960	2,814	545	2,010
Ashland	229	413	44	185
Bayfield	621	705	140	169
Price	467	583	62	516
Sawyer	229	435	183	294
Taylor	414	678	204	846

1/ U. S. Census.

Table 7.- Residence of unemployed male workers in five-county area of
northern Wisconsin ^{1/}
1937

Residence	Number of unemployed			
	Total	Totally unemployed	Emergency workers	Partially unemployed
Total	9,054	4,261	2,242	2,551
On farms	4,536	2,149	947	1,440
Off of farms	4,296	2,007	1,242	1,047
Not reported	222	105	53	64

Residence	Percentage of unemployed			
	Total	Totally unemployed	Emergency workers	Partially unemployed
Total	100.0	100.0	100.0	100.0
On farms	50.1	50.4	42.2	56.5
Off of farms	47.4	47.1	55.4	41.0
Not reported	2.5	2.5	2.4	2.5

^{1/} U. S. Unemployment Census, 1937.

Table 8.- Usual occupation of unemployed male workers in five-county area of northern Wisconsin ^{1/} 1937

Occupation	Number of unemployed			
	Total	Totally unemployed	Emergency workers	Partially unemployed
Total	9,027	4,261	2,242	2,524
Farm workers	2,192	991	403	798
White collar workers	520	226	183	111
Skilled and semi-skilled	2,649	1,203	632	814
Other laborers	2,398	1,208	539	651
New workers	1,024	608	418	-
Not reported	244	27	67	150

Occupation	Percentage of unemployed			
	Total	Totally unemployed	Emergency workers	Partially unemployed
Total	100.0	100.0	100.0	100.0
Farm workers	24.3	23.3	18.0	31.6
White collar workers	5.8	5.3	8.2	4.4
Skilled and semi-skilled	29.3	28.2	28.2	32.3
Other laborers	26.6	28.4	24.0	25.8
New workers	11.3	14.2	18.6	-
Not reported	2.7	.6	3.0	5.9

^{1/} U. S. Unemployment Census, 1937.

100

100

